

Two New Species of *Ainsliaea* (Asteraceae, Mutisieae) from China and Vietnam

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ABSTRACT. Two new species, *Ainsliaea pentaflora* from Tonkin, Vietnam, and *Ainsliaea qianiana* from Yunnan, China, are described and illustrated. *Ainsliaea pentaflora* is distinguished by its 5-flowered capitula, rounded anther appendages, and rosulate leaves with practically wingless petioles. *Ainsliaea qianiana* is distinguished by its apiculate anther appendages, rosulate leaves with petioles winged, and 3-flowered capitula. These species are compared with closely related species. Included are keys to those *Ainsliaea* with apiculate anther appendages and 5-flowered capitula.

Key words: *Ainsliaea*, Asteraceae, China, Compositae, Mutisieae, Vietnam.

The genus *Ainsliaea* DC. (including *Diaspananthus* Miquel) contains about 50 species distributed in southeast Asia. All are perennial herbs with rosulate leaves or leaves arranged at the median part of the stem, few-flowered capitula in spikes or panicles, slightly zygomorphic, deeply 5-lobed corollas with unilateral lobes, and plumose pappus bristles. The most closely related genera, *Macroclinidium* Maximowicz, *Myripnois* Bunge, and *Pertya* Schultz Bipontinus, usually differ by their scabrid, non-plumose pappus bristles (Bremer, 1994).

During the course of a taxonomic revision of the genus *Ainsliaea* by the author, the following two species were recognized as undescribed.

Ainsliaea pentaflora S. E. Freire, sp. nov. TYPE: Vietnam. Tonkin: Massif du Tom Dav, 900 m, Dec. 1921, A. Petelot s.n. (holotype, C). Figure 1.

Herba perennis, scaposa. Folia rosulata, longipetiolata; lamina ovata, basi rotundata, leviter decurrentis, apice acuta, in margine mucronato-denticulata, membranacea, supra scabridula parce villosa vel glaberrima, subtus villosa, pinnativenia; petioli non alati, villosi. Folia inter inflorescentiam pauca, elliptica. Capitula pentaflora, sessilia, solitaria vel 2-fasciculata in panicula disposita. Involucrum cylindrici-campanulatum. Phyllaria 6–7-seriata, coriacea, apice villosa. Flores isomorphi, omnes hermaphroditi; corollae tubuliformes, 5-lobatae, cum lobis unilateralibus; antherae apice rotundatae, basi sagittatae,

breviter laciniatae; styli rami obtusi. Achaenia villosa; pappi setae uniseriatae, plumosae.

Plants perennial, herbaceous, ca. 0.35 m tall. Stems erect, unbranched, villous. Leaves basally clustered, rosulate, long-petiolate; petioles wingless, 6.5–9 cm long, villous; leaf blades chartaceous, ovate, 7.5–8.5 × 3.5–4 cm, apex acute, base rounded, then cuneately narrowed into the petiole, margins denticulate-mucronate; adaxial surface slightly scabrous, sparsely villous to glabrous, trichomes multicellular-unbranched (consisting of uniseriate pedestal and long apical cells oblique septate), ca. 0.7–1.25 mm long, abaxial surface villous, veins somewhat more densely pubescent than rest of abaxial surface; venation pinnate, secondary veins 2 or 3 on each side of midrib, arcuate, the secondary veins and midrib prominent. Cauline leaves few, much reduced, ovate-elliptic. Capitula sessile, solitary or 2, disposed in panicles, nodding in maturity. Involucre 6- or 7-seriate, narrowly campanulate, 13–15 × 12–14 mm; phyllaries coriaceous, apically villous; outer phyllaries oblong-ovate, 3–4 × 1.5 mm, the apices acute; inner phyllaries linear-elliptic, 10–10.5 × 1.5–1.7 mm, the apices acute. Florets 5, hermaphroditic, corollas glabrous, apically papillose, tubular, 4.5–5.5 mm long, 5-lobed, lobes ca. 1 mm long, with one deeper slit ca. 1.5 mm, the corolla then pseudoligulate but without an expanded limb, tube ca. 3.5 mm long. Anthers 5, ca. 3 mm long, apical appendages rounded, ca. 0.4 mm long, sagittate; tails 0.8–1 mm long, shortly pilose. Style branches short, obtuse, ca. 1.2 mm long. Achenes oblong, 7.5–8 mm long, pilose. Pappus bristles uniseriate, ca. 39, plumose, 7.5–8 mm long, white.

The new species is known only from the type collection from Tonkin, Vietnam, at approximately 900 m.

Ainsliaea pentaflora most closely resembles *A. latifolia* (D. Don) Schultz Bipontinus. Both have ovate leaves arranged at the base of the stem and rounded apical anther appendages. However, *A. pentaflora* differs from *A. latifolia* by its 5(vs. 3)-

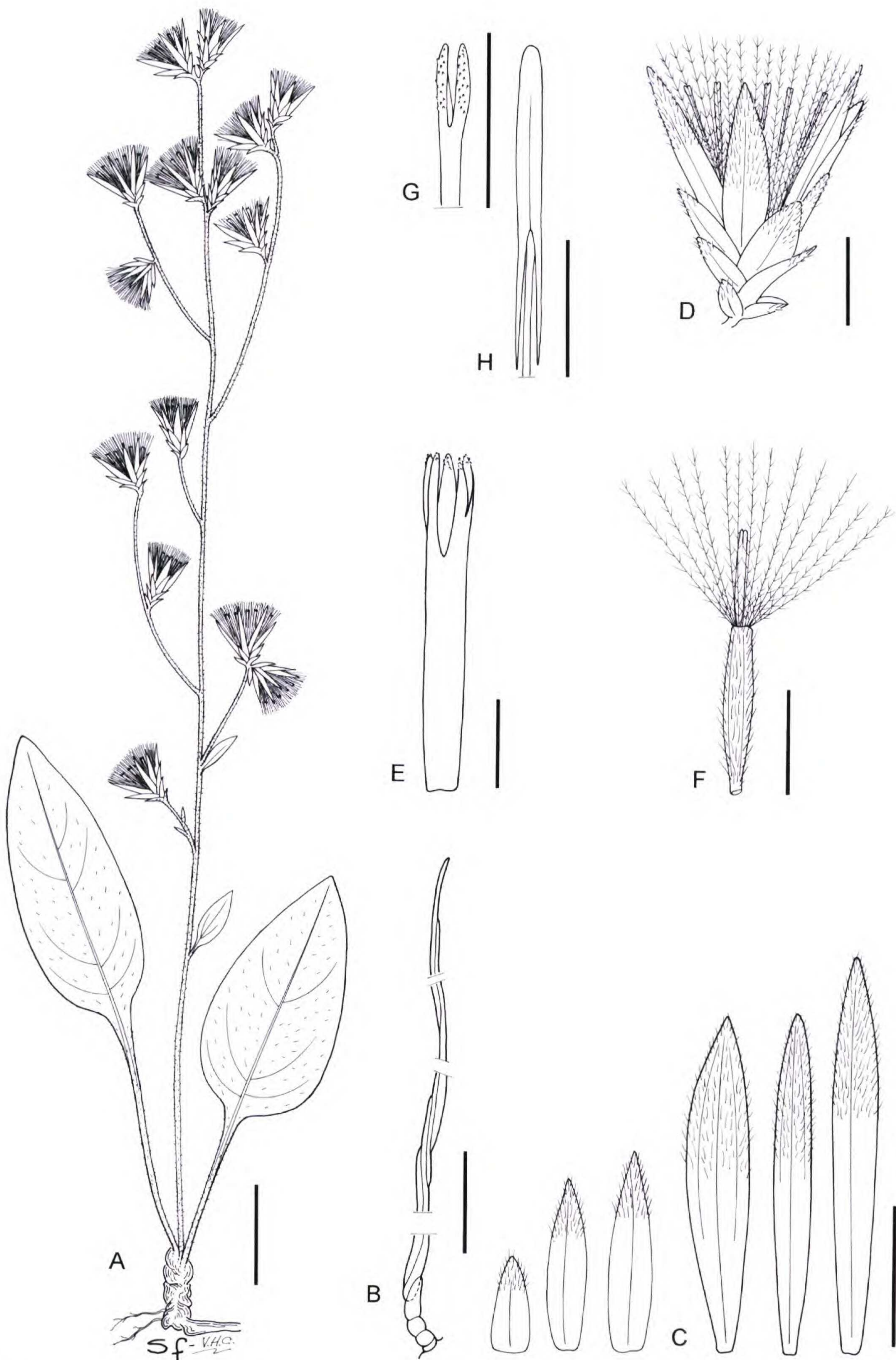


Figure 1. *Ainsliaea pentaflora* S. E. Freire. —A. Habit. —B. Foliar trichome. —C. Phyllaries. —D. Capitula. —E. Corolla. —F. Floret. —G. Style branches. —H. Stamen. Scale bars: A = 3 cm; B = 0.2 mm; C = 3.5 mm; D & F = 5 mm; E = 1.5 mm; G = 2.5 mm; H = 1 mm. Drawn from the holotype: *Petelot s.n.* (C).

flowered capitula, and its practically wingless (vs. winged) petioles.

The new species epithet *pentaflora* refers to the 5-flowered capitula. Two other species of the genus are also 5-flowered: *A. brandisiana* Kurz from Myanmar (= Burma) and *A. spanocephala* Y. C. Tseng from Thailand.

KEY TO THE *AINSLIAEA* SPECIES WITH 5-FLOWERED CAPITULA

- 1a. Leaf bases cuneate; anther appendages apically rounded *A. pentaflora* S. E. Freire
- 1b. Leaf bases rounded or cordate; anther appendages apically acuminate.
 - 2a. Leaf bases rounded *A. brandisiana* Kurz
 - 2b. Leaf bases cordate *A. spanocephala* Y. C. Tseng

Ainsliaea qianiana S. E. Freire, sp. nov. TYPE: China. NE Yunnan: Colline de Kin-tchongchan, 2990 m, *E. E. Maire* 2529 (holotype, W; isotypes, NY, UC). Figure 2.

Herba perennis, scaposa. Folia rosulata, longipetiolata, cum petiolo late alato; lamina elliptica vel ovata, in petiolo subito angustata, apice acuta, in margine mucronato-denticulata et villosa, crasse, utrinque glabra, subtus albida, pinnativenia. Folia inter inflorescentiam pauca, lineari-elliptica. Capitula triflora, numerosissima, sessilia, 3–5-fasciculato-spicata, horizontalia vel pendula, unilateralia, spica simplex vel breviter ramosa. Involucrum cylindricum. Phyllaria 6–7-seriata, papyracea, omnes glabra. Flores isomorphi, omnes hermaphroditi; corollae rubescentes, 5-lobatae, cum lobis unilateralibus, linearibus, partitis subaeque; antherae apice apiculatae, basi sagittatae, breviter laciniatae; styli rami breves, rotundati. Achaenia villosa; pappi setae uniseriatae, plumosae.

Plants perennial, herbaceous, 0.50–0.60 m tall. Stems erect, unbranched, moderately villous. Leaves basally clustered, rosulate, long-petiolate; petioles winged, 10–11 cm long; leaf blades subcarnose, elliptic to elliptic-ovate, 7.5–8.5 × 3.5–3.8 cm, apex acute to obtuse, base abruptly rounded and decurrent into the petiole, margins denticulate-mucronate and villous, trichomes multicellular-unbranched (consisting of a uniseriate

pedestal and long apical cells obliquely septate), ca. 0.6–1 mm long; upper and lower surfaces glabrous, the surface whitish below; venation pinnate, secondary veins 2 or 3 on each side of midrib, arcuate, secondary veins and midrib prominent. Cauline leaves few, much reduced, linear-elliptic. Capitula sessile, 3- to 5-fasciculate, rarely 1 or 2, spicately disposed, nodding in anthesis, spike unilateral, single- or few-branched. Involucre 6- or 7-seriate, cylindrical, 12–14.5 × 3–4 mm in anthesis; phyllaries papyraceous, glabrous; outer phyllaries linear-ovate, 2.8–3 × 0.8–1 mm, the apices acuminate; inner phyllaries linear-ovate to linear-elliptic, 11–13 × 1.2–2 mm, the apices acuminate to acute. Florets 3, hermaphroditic, corollas light pink, glabrous, apically papillose, 5-lobed, lobes unilateral, oblong, ca. 3.5 mm long, with one deeper slit ca. 5.5 mm long, the corolla then slightly ligulate, tube ca. 4.5 mm long. Anthers 5, ca. 6 mm long, apical appendages shortly apiculate, 1–1.5 mm long (apiculum ca. 0.2 mm long), sagittate; tails ca. 1.3 mm long, shortly pilose. Style branches shortly bilobed, apically rounded, ca. 0.25 mm long. Achenes oblong, 3–4 mm long, densely pilose. Pappus bristles uniseriate, ca. 39, plumose, 6–7 mm long, white.

Ainsliaea qianiana at present is known only from the type collection from northeastern Yunnan, China, at approximately 2990 m.

The species is named to honor Qian Yi-yong, a dedicated botanist and collector of the Chinese flora.

The new species is characterized by its apiculate anther appendages, rosulate leaves with petioles winged, and capitula 3-flowered. *Ainsliaea qianiana* exhibits some likeness to *A. macrocephala* in habit and capitulescence. That species is amply distinguished by its apically rounded anther appendages and its pilose phyllaries and leaves. Twelve other species of the genus also have apiculate anther appendages.

KEY TO THE *AINSLIAEA* SPECIES WITH APICULATE ANTHER APPENDAGES

- 1a. Leaves clustered at the median part of the stem.
 - 2a. Leaves 3-parted *A. dissecta* Franchet & Savatier
 - 2b. Leaves lobed.
 - 3a. Blades palmately lobed.
 - 4a. Capitula 1-flowered *A. lancangensis* Y. Y. Qian
 - 4b. Capitula 3-flowered *A. acerifolia* Schultz Bipontinus
 - 3b. Blades pinnately lobed *A. cordifolia* Franchet & Savatier
- 1b. Leaves ± rosulate.
 - 5a. Leaves palmateveined; capitula 1-flowered *A. uniflora* Schultz Bipontinus
 - 5b. Leaves pinnateveined; capitula 3- or 5-flowered.
 - 6a. Capitula 5-flowered.

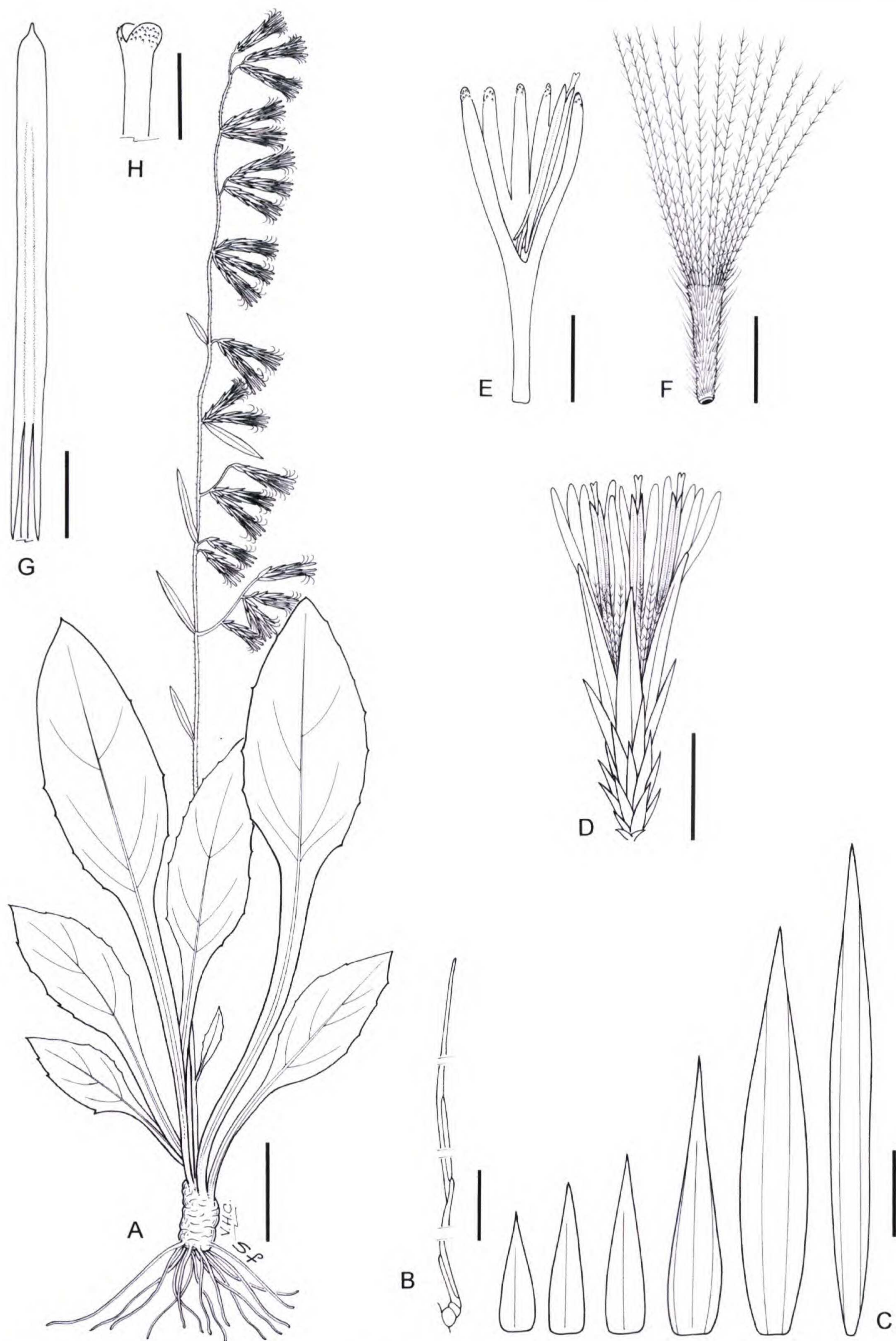


Figure 2. *Ainsliaea qianiana* S. E. Freire. —A. Habit. —B. Foliar trichome. —C. Phyllaries. —D. Capitula. —E. Floret without ovary. —F. Achene with pappus. —G. Stamen. —H. Style branches. Scale bars: A = 3 cm; B = 0.1 mm; C & F = 2 mm; D = 5 mm; E = 2.5 mm; G & H = 1 mm. Drawn from the holotype: *Maire 2529* (W).

- 7a. Leaf bases rounded *A. spanocephala* Y. C. Tseng
- 7b. Leaf bases cordate *A. brandisiana* Kurz
- 6b. Capitula 3-flowered.
- 8a. Petioles winged *A. qianiana* S. E. Freire
- 8b. Petioles wingless.
- 9a. Blades elliptic, rounded at the base.
- 10a. Blades 8–12 cm long *A. pingbianensis* Y. C. Tseng
- 10b. Blades 4.5–5 cm long *A. angustata* C. C. Chang
- 9b. Blades oblong, cordate at the base.
- 11a. Phyllaries apically pilose *A. cavaleriei* H. Lévêille
- 11b. Phyllaries glabrous.
- 12a. Blades slightly concolorous *A. ramosa* Hemsley
- 12b. Blades with lower surface whitish, veins reddish . . *A. rubrinervis* C. C. Chang

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